PUBLIC SAFETY
PSWN PROGRAM
WIRELESS NETWORK

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Public Safety Wireless Network

Achieving Interoperability Through Cooperation and Coordination

September 25, 2000

Magalie Roman Salas
Secretary
Federal Communications Commission
TW-A325
445 Twelfth Street, SW
Washington, DC 20554

Re: **Comments,** *In the Matter of the Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010,* **Fourth Notice of Proposed Rule Making, in WT Docket No. 96-86**

Dear Ms. Salas:

On behalf of the Public Safety Wireless Network (PSWN) Program and pursuant to Section 1.419 of the Commission's rules, 47 C.F.R. § 1.419 (1999), enclosed herewith for filing are an original and four (4) copies of the PSWN Program's Comments in the above-referenced proceeding.

Kindly date-stamp the additional, marked copy of this cover letter and return it in the envelope provided.

Should you require any additional information, please contact the undersigned.

Respectfully submitted,

Brigadier General Paul H. Wieck II
Iowa Army National Guard
Chair, PSWN Executive Committee
Spectrum Working Group

Steven Proctor
Executive Director,
Utah Communications Agency Network
Executive Vice-Chair,
PSWN Executive Committee

ORIGINAL
(4)

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
The Development of Operational,	)	
Technical and Spectrum Requirements	)	
For Meeting Federal, State and Local	)	WT Docket No. 96–86
Public Safety Agency Communication	)	
Requirements through the Year 2010	)	
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To: The Commission

COMMENTS TO THE FOURTH NOTICE OF PROPOSED RULEMAKING

Filed by: The Public Safety Wireless Network Program

Date: September 25, 2000

Federal Communications Commission
Washington, DC 20554

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PUBLIC SAFETY WIRELESS NETWORK (PSWN) PROGRAM COMMENTS TO THE FOURTH NOTICE OF PROPOSED RULEMAKING

1. The Public Safety Wireless Network (PSWN) Program[1] Executive Committee (EC) respectfully submits the following Comments to the Commission's Fourth Notice of Proposed Rulemaking (NPRM) in the above-styled proceeding. In the Fourth NPRM, the Commission directly addresses a number of issues of great interest to the PSWN Program. The PSWN Program continues to investigate wireless communications issues with direct impact on public safety agencies. Through these Comments to the Fourth NPRM, the EC hopes to bring the benefits of its perceptions to the Commission as it decides the matters raised in the Fourth NPRM.

[1] The PSWN Program is a federally-funded initiative operating on behalf of all local, state, and federal public safety agencies. The Department of Justice and the Department of the Treasury are jointly leading the PSWN Program's efforts to plan and foster interoperability among public safety wireless networks. The PSWN Program is a 10-year National Partnership for Reinventing Government (NPRG) initiative. The NPRG, previously known as the National Performance Review, is an effort to reengineer how government provides services to citizens through more effective use of information technology and through more concerted partnership efforts among government at all levels.

I. BACKGROUND

2. The PSWN Program was established to foster nationwide interoperability between and among all levels of government—seamless, coordinated, and integrated public safety communications for the safe and efficient protection of life and property.[2] The PSWN Program continues to develop partnerships between and among local, state, and federal entities, and is working closely with the public safety community to develop a comprehensive implementation plan for interoperability among wireless networks.[3] The program is more than halfway through its third year and is entering its second 5-year phase. During this phase, the program will assist the public safety community with its implementation of interoperability in accordance with the national plan.[4]

3. Consistent with its charter, and building on the findings of the Public Safety Wireless Advisory Committee (PSWAC), the PSWN Program, through the EC, has made spectrum one of its priority areas of activity.[5] A major focus of these efforts has involved the use and management of the 24 megahertz (MHz) of spectrum in the 764–776 and 794–806 MHz bands ("The 700-MHz Band"), reallocated pursuant to the Balanced Budget Act of 1997,[6] in particular the 10 percent of this spectrum designated for interoperability channels. To this end, the PSWN Program has actively participated in the Public Safety National Coordination Committee (NCC), which was convened pursuant to the Federal Advisory Committee Act (FACA), to develop rules for the management of the 700 MHz band interoperability spectrum. The PSWN Program has been directly involved in every aspect of the NCC's activities since the NCC's inception in early 1999. The PSWN Program, through EC members serving on or supporting the NCC

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[2] *See* the *PSWN Program Strategic Plan*, April 1998 (submitted with the PSWN Program Comments, WT Docket No. 96–86) at page 2.

[3] The information obtained and developed by the PSWN Program through its activities is openly available via the program's Web page at http://www.pswn.gov.

[4] *See* the *PSWN Program Strategic Plan*, at pages 5, 9, and 10, for information regarding the PSWN Program phases (e.g., their definitions, relative timing, and types of activities within each phase).

[5] *See* the PSWN Program Comments (WT Docket No. 96–86) at paragraphs 5 and 6. The PSWN Program has identified six key spectrum issues that require resolution for improving public safety radio communications: insufficient aggregate amount of spectrum, excessive number and undetermined appropriateness of frequency bands, insufficient interoperability spectrum, lack of affordable multiband technology, complicated spectrum management processes, and lack of a migration strategy.

[6] 47 U.S.C. § 337.

subcommittees and its Steering Committee, contributed to the development of the NCC's recommendations at the end of its first year of activity.[7] These recommendations were the basis for the Fourth NPRM. Therefore, the EC, on behalf of the PSWN Program, is pleased to offer these Comments to the Fourth NPRM.

4. The PSWN Program will address the following areas in its Comments to the Fourth NPRM: trunking on the interoperability spectrum; administration of the interoperability channels, including regional planning committee oversight of the interoperability spectrum and state interoperability executive committees; channel designation and access priority, including use of the Priority Access System and designated calling channels, as well as low-speed data channel reservation; technical standards, including narrowband digital voice and low-speed data transmission standards and narrowband channel efficiency standards; and development of the proposed Pre-Coordination Database (PCDB) for the 700-MHz band. The positions cited herein are reflective of those already propounded by the PSWN EC on the public record, to include proceedings before the Commission, as well as through participation in the NCC.

II. DISCUSSION

Trunking on Interoperability Spectrum

5. The NCC recommended that the Commission not mandate trunking on the interoperability spectrum. The NCC believed that most interoperability communications would occur at an incident scene where the required trunking system infrastructure might not exist. The NCC also felt that the advantage in spectral efficiency created by the trunking would not offset the high cost of configuring channels for trunked operations. In addition, the NCC noted that if trunking was mandatory, then all mobile units would need to have trunking capabilities. If agencies from outside jurisdictions responded to a situation, each of their units would have to be registered with the trunking system before being able to interact with the system, which would create additional complications and delay response. Based on this rationale, the Commission

[7] Public Safety National Coordination Committee, *Recommendations to the Federal Communications Commission for Technical and Operational Standards for Use of the 764–776 MHz and 794–806 MHz Public Safety Band Pending Development of Final Rules*, Kathleen Wallman, Chair, February 25, 2000.

tentatively concluded in the Fourth NPRM not to require trunking on the public safety interoperability spectrum in 700-MHz band. The PSWN Program, consistent with its previously stated position,[8] fully supports this conclusion for the same reasons cited by the NCC.

Administration of the Interoperability Channels

A. RPC Oversight of Interoperability Spectrum

6. The NCC proposed that the states would undertake administration of the interoperability channels, while the Regional Planning Committees (RPC) would oversee actual operation of the interoperability infrastructure. The NCC envisioned that the states would hold the licenses and would develop the interoperability plans, while the RPCs would perform the technical reviews. Specifically, the NCC recommended the following:

- The RPCs would undertake oversight of the technical parameters of the infrastructure.
- The RPCs would urge states to jointly develop interoperability plans or create the plans independently.
- The RPCs would request that the states hold the licenses for equipment associated with the interoperability channel infrastructure or, if states were unwilling to undertake this function, the next highest level of government would hold these licenses.

7. The Commission agreed with the NCC that the administration of the interoperability channels should occur at the state level but tentatively concluded that the approval process could be delegated to another entity such as an RPC. The PSWN Program supports the Commission's findings in this regard. The PSWN Program believes that RPCs, particularly with the support of State Interoperability Executive Committees (SIEC) as discussed below, are best positioned to address the approval process for interoperability and the operational and technical aspects related to operations conducted on those channels.

8. The PSWN Program notes, as did the Commission, that the RPCs already have the mechanism to review the technical parameters of the 700-MHz general-use spectrum and

[8] *See* PSWN Program Ex Parte Comments, WT Docket No. 96–86, January 13, 2000, at Para. 12–15.

believes that the RPCs should likewise review the technical parameters of the interoperability spectrum. The PSWN Program also believes that the RPCs should verify application compliance with the state-approved plan for interoperability spectrum, or if there is no state-approved plan, should certify approval by the appropriate state agency.

B. State Interoperability Executive Committees

9. The NCC Steering Committee endorsed the NCC Interoperability Subcommittee's recommendation regarding the establishment of SIECs.[9] Incorporated into the NCC recommendations was a white paper by the PSWN Program advocating the formation of SIECs to handle the administration of the interoperability channels.[10] As detailed by the Commission in the Fourth NPRM, potential operators on the interoperability channels would enter into a memorandum of understanding (MOU) with the applicable SIEC. That SIEC would have enforcement authority over the MOU, while final authority would lie with the Commission. The NCC proposed that the applicant and the SIEC would be required to sign the MOU before being granted a license. The MOU would require the licensee to use plain or unencrypted language on the interoperability channels, to monitor the calling channels and coordinate use of the tactical channels, to limit secondary trunking on the interoperability channels as described, and to follow a set of priority levels when using the channels. Under the plan endorsed by the NCC, outside ("foreign") entities responding to a multijurisdictional situation would be subject to an ad hoc virtual sharing agreement that would begin at the start of an incident response and terminate at the conclusion of the incident. The PSWN Program concurs with this understanding of the MOU process.

10. The NCC further recommended that the SIECs draft interoperability operational plans and that if the SIECs were unable to, the local RPC should develop the plan. The Commission has sought comment on whether an RPC should oversee the development of an interoperability plan for a state. It is the opinion of the PSWN Program that this would be advisable; as with licensing and infrastructure oversight issues, the RPCs are best positioned to address this issue

[9] NCC Recommendations at p.13, para 38.
[10] NCC Recommendations at App. L.

based on their understanding of regional operational dynamics and the needs of their constituent user communities.

11. The Commission correctly observed in the Fourth NPRM that the exact method a state was permitted to use to administer its channels was not clarified by the NCC, and has sought comment on the NCC proposal on the MOU issues and sharing agreements and how the proposals would work in practice. The PSWN Program suggests that it would not be advisable for the Commission to prescribe a "one size fits all" methodology for addressing these needs or to incorporate such a universal plan in a final Rulemaking. Rather, and consistent with its prior recommendations, the PSWN Program believes that, having been delegated the appropriate amount of authority discussed above, the RPCs would be able to work with the SIECs to address MOUs and sharing agreements based on individual needs of participants.

Channel Designation and Access Priority

A. Priority Access System

12. The NCC has recommended priority access for users only in critical situations where the higher priority party would gain access to the channel, while the lower priority party would have to cease communications. The NCC suggested the following priorities from highest to lowest:

> Level 1—Disaster and extreme emergency operations for mutual aid and interagency communications
>
> Level 2—Emergency or urgent operations involving imminent danger to life or property
>
> Level 3—Special event control, generally preplanned (including task force operations)
>
> Level 4—Single agency secondary communications (default priority).

In the Fourth NPRM, the Commission stated that it believed that the states were better determinants of priority use and dispute resolution. The Commission has sought comment on the NCC recommendations and, specifically, whether the priorities suggested by the NCC were clear and would not cause any administrative problems. The PSWN Program believes that the

definitions proposed by the NCC are appropriate and does not foresee any administrative problems in implementing a prioritization scheme based on the NCC's definitions.

13. The Commission had further noted that the Priority Access Service (PAS) priority levels differ from those propounded by the NCC and had sought comment on whether the priority levels should be different for the commercial mobile radio service (CMRS) providers. The PSWN Program notes the operational and practical differences between CMRS and public safety radio services and believes that the different priority levels would not cause problems for agencies involved in incident response. Accordingly, the PSWN Program does not believe that access levels should be modeled on the PAS levels.

B. Calling Channels

14. The NCC recommended that two interoperability channels be designated as calling channels to allow public safety users outside the system to access the local public safety communications system. The NCC added that the calling channels could be used to request the release of other channels in the case of an emergency. In addition, the NCC suggested that licensees who use the interoperability channels be required to monitor the calling channels. The Commission accordingly proposed the use of two channels of the 700-MHz band as nationwide calling channels. The channels would be used for activities such as coordination of multiple agencies at an emergency scene or by entities requesting help from outside the system.

15. The PSWN Program supports the NCC's recommendations and the Commission's tentative conclusions in these three areas. The PSWN Program notes that it will be essential to maintain designated inbound calling channels during major incident management scenarios so that the operational channels can remain engaged at all times. Along the same lines, the PSWN Program believes that it will be necessary, as pointed out by the NCC, for all entities using the interoperability channels to monitor the calling channels to ensure that all parties can effectively interoperate with minimal delay and confusion. The only alternative to mandatory calling channel monitoring would be a relay or communication through another set of channels or media, options that may not be practicable or even available during an emerging situation.

16. The Commission seeks comment on the NCC recommendations that no encryption be used on the calling channels. The PSWN Program supports this line of reasoning, noting that use of encryption on calling channels would effectively prevent use of these channels by many user groups and would thereby frustrate the goal of establishing interoperability channels in the first place. In the event of a situation requiring the use of encryption, the PSWN Program believes that the designated calling channels could be used to establish and coordinate contact, and then if it is necessary or appropriate to use encryption among a particular group of users, that these users could then be engaged on an operational channel, with appropriate guidelines for prioritization and relinquishment established accordingly.

C. Channel Reservation for Data Transmission

17. The Commission agreed with the NCC recommendation to reserve two interoperability channels for narrowband data transmission. The PSWN Program concurs with this recommendation, noting that narrowband data transmission will be essential for interoperability.

Technical Standards

A. Narrowband Digital Voice Standards for Interoperability Channels

18. The Commission initially developed the 700-MHz spectrum channel plan based on 6.25 kilohertz (kHz) channel spacing and therefore declined to adopt the Project 25 Phase I standard. The Commission acknowledged in the Fourth NPRM that the delays in implementing the technology as it currently exists would make the 6.25-kHz standard less realistic. In an effort to address the ultimate need for and eventual feasibility of a 6.25-kHz channel, the Association of Public–Safety Communications Officials–International, Inc. (APCO) stated that the Project 25 Phase II will be a 6.25-kHz standard and backward compatible to the current Project 25 standard so it could be implemented immediately without any increase in cost. Ericsson, Inc. (Ericsson) has asserted that, inasmuch as the spectrum would not effectively be available for public safety

usage until 2006, it would be unnecessary to develop a technology standard for the 700-MHz interoperability spectrum.

19. The NCC recommended that Project 25 Phase I, American National Standards Institute (ANSI)/Telecommunications Industry Association (TIA)/Electronics Industry Alliance (EIA) Project 25 (TIA/EIA–102), a frequency division multiple access (FDMA), analog-compatible standard be adopted as the digital voice standard for the 700-MHz interoperability spectrum. The NCC has not recommended Project 25 Phase II to date because of potential delays in developing this standard, nor has it advocated the European Terrestrial Trunked Radio (TETRA) standard, which a number of entities had suggested as a possible alternative to Project 25. The NCC declined to recommend TETRA because of the low power in the handheld radios and because this standard has not been approved by the ANSI.

20. The Commission tentatively concluded that it would adopt the NCC recommendations while at the same time direct the development of a migration path to 6.25-kHz technology. The PSWN Program notes at the outset its longstanding support of Project 25 Phase I as the only operationally viable standard for interoperability[11] and supports the conclusions of the NCC as adopted by the Commission. The PSWN Program further commends the NCC in recommending, and the Commission in tentatively adopting, a migration path to 6.25-kHz technology. The PSWN Program is convinced that the combination of these two actions will allow continued advancement of 700-MHz plans using proven existing technology while, at the same time, allowing the public safety community to reap the eventual benefits of the robust 6.25-kHz technology expected within the coming years.

B. Channel Efficiency Standards – Narrowband Channels

21. The Commission has tentatively established a channel efficiency standard of data throughput of 4.8 kilobits per second (kbps) per 6.25 kHz. Ericsson has stated that without adopting a complementary voice efficiency standard, the proposed channel efficiency standard would seriously undermine the adequacy of the spectrum needs identified in the PSWAC Final

[11] *See* PSWN Program Ex Parte Comments, WT Docket No. 96–86, January 13, 2000, at Para. 16–22.

Report. In contrast, APCO has contended that the Ericsson proposal of imposing a 6.25-kHz requirement would only favor Ericsson's time division multiple access (TDMA) two-slot technology and no ANSI-approved technology exists that provides one voice channel per 6.25-kHz bandwidth. APCO further asserted that the Ericsson proposal would undermine the public safety community's current support of TIA/25 technology standards. Without addressing APCO's specific contentions regarding Ericsson, the PSWN Program maintains its support for Project 25, which involved more than 10 years of coordination and development between technical and public safety personnel, and countless hours of operational testing and experience-based deliberations—including the work of the NCC itself. The PSWN Program cautions the Commission not to adopt any rule that would deviate from the Project 25 digital voice standards it has already contemplated for the 700-MHz band.

C. Narrowband Low-Speed Data Transmission Standard

22. Consistent with its recommendations for voice standards, the NCC has advised the Commission to adopt the Project 25 standard for narrowband data transmission, which requires the use of a 12.5-kHz channel. As the PSWN EC, which continues to monitor and discuss the standards development process, has continued to stress before the Commission, Project 25 has existing and exclusive ANSI approval, as well as "backward compatibility" with current and near-term operational systems and equipment. In contrast to TETRA or any other emerging standard, the EC also reminds the Commission an embedded base already exists among the U.S. public safety user community for Project 25 compatible equipment.[12]

23. The Commission has also proposed that all subscriber units designed for data only not be required to have voice capabilities and conversely all subscriber units designed for voice only not be required to have data capabilities. The PSWN Program concurs with the Commission's conclusions in this regard, and notes that to do otherwise would impose unnecessary costs for equipment development and construction that would invariably be passed on to the public safety user community with little or no corresponding benefit.

[12] *Id.* at Para. 18.

Pre–coordination Database

24. The NCC recommended developing a PCDB for the 700-MHz public safety band from which RPCs could choose interoperability channels to avoid co-channel and adjacent channel interference. The National Institute of Justice (NIJ) would fund the PCDB. The Commission tentatively declined to mandate use of the PCDB and concluded that it would allow entities administering the interoperability system to determine whether a PCDB should be required. The Commission has also sought comment on NCC recommendation that the RPCs regional plans should include a coordination process between the interoperability and the general use channels, and any other channel coordination alternatives for the RPCs.

25. Although the PSWN Program believes that exact processes for the use and management of the PCDB, including coordination, if any, with general use channels, will need to evolve as a component of the regional planning process, the PSWN Program believes that if undertaken, participation in the PCDB must be mandatory. Otherwise, the PSWN Program is concerned that the PCDB will be unable to obtain and maintain complete and accurate information, which will substantially, if not entirely, impair the usefulness of the PCDB to public safety entities, whether or not they choose to participate. The PSWN Program therefore urges the Commission to either defer its decision on PCDB participation until a more definitive plan for the PCDB can be developed, or make participation mandatory.

III. CONCLUSION

26. The PSWN Program urges the Commission not to require trunking on the public safety interoperability spectrum in 700-MHz band.

27. The PSWN Program suggests that RPCs, in connection with SIECs, should be permitted to undertake the approval process, as well as address regional operational and technical issues, for interoperability channels, including compliance verification with state-approved or certified interoperability plans.

28. The PSWN Program asserts that SIECs should be permitted the discretion to work with RPCs to address MOUs and sharing agreements at the regional level rather than pursuant to a nationally prescribed formula.

29. The PSWN Program believes that the definitions proposed by the NCC regarding priority access are appropriate and urges the Commission to adopt them as recommended rather than attempting to match them with the PAS levels for CMRS.

30. The PSWN Program recommends that two interoperability channels be designated as calling channels and that the licensees who use the interoperability channels be required to monitor the calling channels.

31. The PSWN Program urges the Commission to reserve two interoperability channels—and not more—for narrowband data transmission.

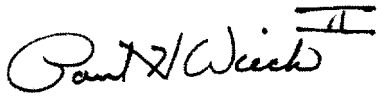
32. The PSWN Program strongly advises the Commission to adopt Project 25 standards for digital voice and narrowband data interoperability and to maintain the channel efficiency standards contemplated by Project 25.

33. The PSWN Program requests that the Commission either defer its decision on the PCDB pending further development or require participation in the PCDB.

34. The PSWN EC commends the efforts of the NCC in developing its recommendations to the Commission, as well as those of other parties whose input was considered in the drafting of the Fourth NPRM. The EC respectfully requests the Commission to carefully consider the PSWN Program's positions herein submitted in light of the commentary of others. In this and other dockets or other proceedings before the Commission, the PSWN Program will continue to remind the Commission of the importance of interoperability to public safety operations. In doing so, the PSWN Program cites the intentions of the Congress in setting aside the 24 MHz of spectrum for public safety usage pursuant to the Balanced Budget Act of 1997 and the Commission's original reasoning in light of these intentions to designate a segment of public safety spectrum for interoperability. The PSWN Program urges the Commission to continue its endorsement of measures designed to promote the shared use of spectrum at all levels of

government, as well as to facilitate consistent, reliable interoperability between and among public safety entities nationwide.

Respectfully submitted,



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Spectrum Working Group

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Executive Director,
Utah Communications Agency Network
Executive Vice–Chair,
PSWN Executive Committee

Before the
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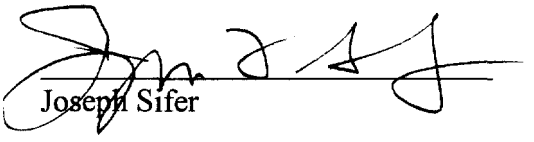
Washington, DC 20554

Certificate of Service

In the Matter of	)	
	)	
The Development of Operational,	)	
Technical and Spectrum Requirements	)	
For Meeting Federal, State and Local	)	WT Docket No. 96–86
Public Safety Agency Communication	)	
Requirements through the Year 2010	)	
	)	

I, Joseph Sifer, Senior Associate, Booz·Allen & Hamilton Inc., 8283 Greensboro Drive, McLean, Virginia, 22102–3838, hereby certify that on this date I caused to be served, by first–class mail, postage prepaid (or by hand where noted) copies of the Public Safety Wireless Network Program's Comments to the Fourth Notice of Proposed Rulemaking, *In the Matter of the Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010*, the original of which is filed herewith and upon the parties identified on the attached service list.

DATED at Fair Oaks, Virginia this 25th day of September 2000.



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